



sasc021e_N (downstream)



sasc021e_S (upstream)



sasc021e_W (across)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-25	Waterbody Survey ID: sasc023e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Billy Creek	
Company: Enbridge	Crew Member Initials: BRG/JSW	Latitude: 46.388751	Longitude: -90.760201
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <i>(check one)</i>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <i>(check one)</i>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <i>(check one)</i>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input checked="" type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <i>(check one)</i>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <i>(check one)</i>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <i>(check one)</i>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <i>(check one)</i>			
Description Notes: The feature is a small erosional stream that leads into perennial stream feature sasc022p. The feature starts at the base of a hill as a seep/runoff collecting feature.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: <u> 2 </u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <i>(check all that apply)</i>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <i>(check all that apply)</i>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>(check one)</i>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Saplings/Shrubs <input type="checkbox"/> Herbs <i>(check all that apply)</i>			
Dominant Bank Vegetation (list): Thuja occidentalis, Betula alleghaniensis, Tilia americana. Understory vegetation is very sparse due to disturbance of the landscape.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): None.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Runoff from uphill paved road, runoff from sparsely vegetated slope, heavy worm activity.			
Observation Notes: The feature is highly erosional due to disturbance to the surrounding landscape and increased runoff.			



sasc023e_N (downstream)



sasc023e_S (upstream)



sasc023e_W (across)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-25	Waterbody Survey ID: sasc024e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Billy Creek	
Company: Enbridge	Crew Member Initials: BRG/JSW	Latitude: 46.389523	Longitude: -90.759793
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input type="checkbox"/> No Water <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input checked="" type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The feature is a small roadside ditch. The banks are thickly vegetated with a small riparian fringe, and some water runs from the feature down into perennial waterbody sasc022p.			
Measurements			
Depth of Water: <u>0.1</u> ft. <input type="checkbox"/> N/A <input type="checkbox"/> Unknown		Water Edge to Water Edge: <u>1</u> ft. <input type="checkbox"/> N/A <input type="checkbox"/> OHWM Width: <u>2</u> ft.	
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input type="checkbox"/> Trees <input type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Phalaris arundinacea, Scirpus cyperinus, Juncus effusus, Rumex crispus.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Overhanging vegetation.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Runoff from paved road.			
Observation Notes: The water has very little flow, and as such provides some aquatic habitat. The feature collects stormwater runoff.			



sasc024e_E (upstream)



sasc024e_N (across)



sasc024e_W (downstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-25	Waterbody Survey ID: sasc026e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Billy Creek	
Company: Enbridge	Crew Member Initials: BRG/JSW	Latitude: 46.388894	Longitude: -90.766694
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input type="checkbox"/> No Water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input checked="" type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The stream is a small ephemeral feature that runs through wetland wasc034e.			
Measurements			
Depth of Water: <u>0.1</u> ft. <input type="checkbox"/> N/A <input type="checkbox"/> Unknown		Water Edge to Water Edge: <u>0.5</u> ft. <input type="checkbox"/> N/A <input type="checkbox"/> OHWM Width: <u>2</u> ft.	
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Impatiens capensis, Scirpus cyperinus, Scirpus hattorianus, Glyceria striata, Fraxinus nigra, Acer nigra, Typha X glauca.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Overhanging vegetation.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None.			
Observation Notes: The stream is somewhat erosional, although the dense bank vegetation reduces erosion. The low elevation of the stream means that the wetland sometimes feeds it water.			



sasc026e_E (across)



sasc026e_N (downstream)



sasc026e_S (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-25	Waterbody Survey ID: sasc028e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Billy Creek	
Company: Enbridge	Crew Member Initials: BRG/JSW	Latitude: 46.388681	Longitude: -90.767585
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <i>(check one)</i>			
Waterbody Type: <input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <i>(check one)</i>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <i>(check one)</i>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input checked="" type="checkbox"/> Functionally Impaired Stream <i>(check one)</i>			
Feature Description: <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <i>(check one)</i>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <i>(check one)</i>			
Sinuosity within Survey Corridor: <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering <i>(check one)</i>			
Description Notes: The feature is a ditch adjacent to a gravel road.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: <u> 2 </u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <i>(check all that apply)</i>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <i>(check all that apply)</i>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>(check one)</i>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <i>(check all that apply)</i>			
Dominant Bank Vegetation (list): Acer rubrum, Tilia americana, Ulmus americana, Fraxinus pennsylvanica, Cornus sericea, Acer saccharum, Poa pratensis, Dactylis glomerata.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): None.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Runoff from gravel road.			
Observation Notes: The feature is somewhat eroded, and is directly adjacent to a treeline and barbed wire fence.			



sasc028e_E (across)



sasc028e_N (downstream)



sasc028e_S (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-25	Waterbody Survey ID: sasc027e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Billy Creek	
Company: Enbridge	Crew Member Initials: BRG/JSW	Latitude: 46.388531	Longitude: -90.766978
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input checked="" type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The feature is a small ephemeral stream running down a slope into wetland wasc034e.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: _____ ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Acer saccharum, Ulmus americana, Fraxinus pennsylvanica, Tilia americana, Symphyotrichum lateriflorum.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): None.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Runoff from sparsely vegetated wooded slopes.			
Observation Notes: The feature is somewhat erosional in nature, and the banks are sparsely vegetated. Waterbody flows into sasc026e.			



sasc027e_E (downstream)



sasc027e_N (across)



sasc027e_W (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-26	Waterbody Survey ID: sasc029e
State: WI	County/Parish: Ashland	USGS Waterbody Name: None	
Company: Enbridge	Crew Member Initials: BRG/JSW	Latitude: 46.327704	Longitude: -90.681782
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input checked="" type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input checked="" type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The feature is a small roadside ditch associated with wetland wasc040e.			
Measurements			
Depth of Water: <u>0.1</u> ft. N/A <input type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: <u>0.5</u> ft. N/A <input type="checkbox"/>	
OHWM Width: <u>1</u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input type="checkbox"/> Trees <input type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Sagittaria latifolia, Calamagrostis canadensis, Scirpus cyperinus.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Overhanging vegetation.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Polluted runoff, runoff from gravel road and mowed field.			
Observation Notes: The stream receives runoff from the adjacent gravel road, and only exists due to the roadside location.			



sasc029e_E (downstream)



sasc029e_S (across)



sasc029e_W (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-10-02	Waterbody Survey ID: sasc030i
State: WI	County/Parish: Ashland	USGS Waterbody Name: None	
Company: Enbridge	Crew Member Initials: BRG/JSW	Latitude: 46.408530	Longitude: -90.555050
Survey Type: <input type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input checked="" type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input type="checkbox"/> No Water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input checked="" type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The feature is a small stream that runs from a young forest under a dirt road via a culvert. The feature then flows into an open waterbody that was created by a beaver dam.			
Measurements			
Depth of Water: <u>0.4</u> ft. N/A <input type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: <u>3</u> ft. N/A <input type="checkbox"/>	
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Acer rubrum, Populus tremuloides, Alnus incana, Cornus sericea, Carex crinita, Impatiens capensis, Glyceria grandis, Carex retrorsa.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Riffles, overhanging vegetation.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Runoff from dirt road, culvert, downstream beaver dam, historic logging activity.			
Observation Notes: The feature is somewhat disrupted by historic logging activity and road runoff, and is associated with alder thicket wetland wasc045s.			



sasc030i_E (upstream)



sasc030i_S (across)



sasc030i_W (downstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-25	Waterbody Survey ID: sasc025e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Billy Creek	
Company: Enbridge	Crew Member Initials: BRG/JSW	Latitude: 46.388911	Longitude: -90.763609
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input type="checkbox"/> No Water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input checked="" type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The feature is a small ephemeral stream that runs through the edge of wetland wasc032e and into a culvert under a paved road.			
Measurements			
Depth of Water: <u>0.2</u> ft. N/A <input type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: <u>2</u> ft. N/A <input type="checkbox"/>	
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Phalaris arundinacea, Glyceria striata, Carex crinita, Tilia americana.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Overhanging vegetation.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Runoff from paved road.			
Observation Notes: The feature has thickly vegetated banks consisting of reed canary grass, and is associated with wetland wasc032e. Parts of the feature border upland woodlands instead of the wetland.			



sasc025e_E (across)



sasc025e_N (downstream)



sasc025e_S (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-14	Waterbody Survey ID: sasa031e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Marengo River	
Company: Enbridge	Crew Member Initials: NTT/DGL	Latitude: 46.401058	Longitude: -90.835043
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input checked="" type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input checked="" type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: Feature meanders through a heavily grazed pasture.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: <u> 1 </u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input type="checkbox"/> Trees <input type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Phleum pratense, Poa pratensis.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): None.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Heavily grazed cattle pasture.			
Observation Notes: Currently dry.			



sasa031e_NW (downstream)



sasa031e_SE (upstream)



sasa031e_W (across)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-14	Waterbody Survey ID: sasa032i
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Marengo River	
Company: Enbridge	Crew Member Initials: NTT/DGL	Latitude: 46.400467	Longitude: -90.834227
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input checked="" type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The waterbody is an intermittent meandering stream located within a heavily grazed pasture.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: <u> 5 </u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input checked="" type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input checked="" type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Symphyotrichum lateriflorum, Fraxinus pennsylvanica, Ulmus americana, Acer rubrum.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Small pools of standing water present.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Area is heavily influenced by cattle impacts.			
Observation Notes: Large boulders throughout the stream bed. Steep banks with scattered American elm and red maple. Majority of the bank has upland grass species.			



sasa032i_E (across)



sasa032i_N (downstream)



sasa032i_S (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-14	Waterbody Survey ID: sasa033e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Marengo River	
Company: Enbridge	Crew Member Initials: NTT/DGL/MAL	Latitude: 46.400248	Longitude: -90.831949
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input checked="" type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input checked="" type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The waterbody is an ephemeral stream that meanders through a heavily grazed cattle pasture.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: <u> 4 </u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input checked="" type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Fraxinus pennsylvanica, Persicaria amphibia, Echinochloa crus-galli.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): None.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Cattle access.			
Observation Notes: No water currently present.			



sasa033e_N (downstream)



sasa033e_S (upstream)



sasa033e_W (across)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-14	Waterbody Survey ID: sasa034i
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Marengo River	
Company: Enbridge	Crew Member Initials: MAL/DGL	Latitude: 46.400152	Longitude: -90.828802
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input type="checkbox"/> No Water <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input checked="" type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: Densely vegetated intermittent stream within a hardwood forest corridor. At the time of survey, there are scattered pools of shallow standing water.			
Measurements			
Depth of Water: <u>0.5</u> ft. <input type="checkbox"/> N/A <input type="checkbox"/> Unknown		Water Edge to Water Edge: <u>3</u> ft. <input type="checkbox"/> N/A	
OHWM Width: <u>9</u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Acer saccharum, Populus tremuloides, Betula papyrifera, Impatiens capensis, Symphyotrichum lateriflorum.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Riffles, pools.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): The waterbody is disturbed by frequent erosion, runoff from the adjacent roadway, an overhead powerline, and invasive species.			
Observation Notes: Feature continues outside survey corridor.			



sasa034i_E (across)



sasa034i_N (downstream)



sasa034i_S (upstream)

APPENDIX F

Waterbody Data Sheets

Part 9 of 24

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-14	Waterbody Survey ID: sasa035e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Brunsweler River	
Company: Enbridge	Crew Member Initials: NTT/DGL	Latitude: 46.399010	Longitude: -90.822388
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input checked="" type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: Ephemeral drainage coming off of a nearby farm field. Steep eroded banks. Quaking aspen along the banks with a ground layer of smooth brome.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: <u> 9 </u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input checked="" type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Bromus inermis, Symphyotrichum lateriflorum, Populus tremuloides.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): No standing water throughout.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Cattle grazed.			
Observation Notes: Bank width around 12 feet. Heavily eroded with steep slopes.			



sasa035e_E (across)



sasa035e_N (downstream)



sasa035e_S (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-14	Waterbody Survey ID: sasa036e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Brunsweler River	
Company: Enbridge	Crew Member Initials: NTT/DGL	Latitude: 46.398556	Longitude: -90.821259
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input checked="" type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: Ephemeral drainage with steep banks and lots of debris and rock. Dense canopy of maple.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: <u> 2 </u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input checked="" type="checkbox"/> Abrupt plant community change <input checked="" type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input checked="" type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Acer saccharum, Tilia americana, Populus tremuloides.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): None.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Fallen trees and debris throughout. Large boulders.			
Observation Notes: Channel was dry at time of survey.			



sasa036e_N (upstream)



sasa036e_S (downstream)



sasa036c_W (across)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-14	Waterbody Survey ID: sasa037e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Brunsweler River	
Company: Enbridge	Crew Member Initials: NTT/DGL	Latitude: 46.397656	Longitude: -90.822480
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <i>(check one)</i>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <i>(check one)</i>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <i>(check one)</i>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input checked="" type="checkbox"/> Functionally Impaired Stream <i>(check one)</i>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <i>(check one)</i>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <i>(check one)</i>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <i>(check one)</i>			
Description Notes: Drainage that runs down a steep hillside and into Brunsweler River.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: <u> 4 </u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <i>(check all that apply)</i>			
<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <i>(check all that apply)</i>			
Observations			
Riparian Zone Present: <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>(check one)</i>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Saplings/Shrubs <input type="checkbox"/> Herbs <i>(check all that apply)</i>			
Dominant Bank Vegetation (list): Acer saccharum, Abies balsamea, Ulmus americana.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): None.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None.			
Observation Notes: Feature associated with the floodplain of the Brunsweler River (wasa083f).			



sasa037e_E (downstream)



sasa037e_S (across)



sasa037c_W (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-14	Waterbody Survey ID: sasa039e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Brunsweler River	
Company: Enbridge	Crew Member Initials: NTT/DGL/MAL	Latitude: 46.397529	Longitude: -90.822378
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input checked="" type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The waterbody is an ephemeral drainage that runs down a steep side slope and connects to another mapped drainage (sasa037e). Runoff from the nearby hay field is transferred via the channel to the Brunsweler River.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: <u> 2 </u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input checked="" type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input checked="" type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Acer saccharum and Abies balsamea transiting to Fraxinus nigra and Ulmus americana in the floodplain. Ground layer is sparse throughout.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): No water throughout drainage.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Fallen trees and debris throughout.			
Observation Notes: Located on steep sides slope. Boulders and rock throughout the channel.			



sasa039e_NE (downstream)



sasa039e_SW (upstream)



sasa039e_W (across)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-14	Waterbody Survey ID: sasa038p
State: WI	County/Parish: Ashland	USGS Waterbody Name: Brunsweler River	
Company: Enbridge	Crew Member Initials: NTT/DGL	Latitude: 46.397609	Longitude: -90.820410
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <i>(check one)</i>			
Waterbody Type: <input checked="" type="checkbox"/> River <input type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <i>(check one)</i>			
Water Appearance: <input type="checkbox"/> No Water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <i>(check one)</i>			
Existing Condition^a: <input checked="" type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <i>(check one)</i>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <i>(check one)</i>			
Flow Regime: <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <i>(check one)</i>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <i>(check one)</i>			
Description Notes: The waterbody is a perennial river that meanders through a forested area.			
Measurements			
Depth of Water: _____ ft. N/A <input type="checkbox"/> Unknown <input checked="" type="checkbox"/>		Water Edge to Water Edge: <u>40</u> ft. N/A <input type="checkbox"/>	
OHWM Width: <u>40</u> ft.			
OHWM Indicator: <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <i>(check all that apply)</i>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input checked="" type="checkbox"/> Abrupt plant community change <input checked="" type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input checked="" type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <i>(check all that apply)</i>			
Observations			
Riparian Zone Present: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(check one)</i>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <i>(check all that apply)</i>			
Dominant Bank Vegetation (list): Equisetum fluvatile, Fraxinus pennsylvanica, Acer rubrum, Ranunculus acris.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Riffles, overhanging vegetation.			
Aquatic Organisms Observed (list): Frogs, minnows, aquatic invertebrates.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Debris along stream.			
Observation Notes: Feature associated with floodplain forest.			



sasa038p_E (across)



sasa038p_NE (downstream)



sasa038p_SW (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-26	Waterbody Survey ID: sasa052p
State: WI	County/Parish: Ashland	USGS Waterbody Name: Brunswelier River	
Company: Enbridge	Crew Member Initials: NTT/DGL	Latitude: 46.396692	Longitude: -90.819985
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input checked="" type="checkbox"/> River <input type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input type="checkbox"/> No Water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input checked="" type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The waterbody is a perennial river. Large boulders are present throughout with shallow water currently flowing.			
Measurements			
Depth of Water: <u>0.5</u> ft. <input type="checkbox"/> N/A <input type="checkbox"/> Unknown		Water Edge to Water Edge: <u>25</u> ft. <input type="checkbox"/> N/A	OHWM Width: <u>40</u> ft.
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input checked="" type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input checked="" type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Thuja occidentalis, Acer rubrum, Equisetum sp., Glyceria striata.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Shallow pools.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Debris and fallen trees surrounding wetland banks.			
Observation Notes: None.			



sasa052p_N (upstream)



sasa052p_S (downstream)



sasa052p_W (across)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-26	Waterbody Survey ID: sasa053e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Brunsweler River	
Company: Enbridge	Crew Member Initials: NTT/DGL	Latitude: 46.396756	Longitude: -90.818857
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input checked="" type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input checked="" type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The waterbody is an ephemeral feature that runs along the edge of a frequently used ATV trail. Surrounding forest is mainly paper birch and white cedar.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: <u> 4 </u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Thuja occidentalis, Pteridium aquilinum, Equisetum sp., Symphyotrichum sp.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): None.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): ATV activity.			
Observation Notes: None.			



sasa053e_E (across)



sasa053e_N (downstream)



sasa053e_S (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-26	Waterbody Survey ID: sasa054i
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Brunsweler River	
Company: Enbridge	Crew Member Initials: NTT/DGL	Latitude: 46.396399	Longitude: -90.818225
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input checked="" type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: Meandering drainage that goes down a steep hillside. Large trees and debris throughout.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/> OHWM Width: <u>6</u> ft.	
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Acer saccharum, Tsuga canadensis, Abies balsamea, Pteridium aquilinum.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): None.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None.			
Observation Notes: Large boulders throughout portions of the waterbody.			



sasa054i_E (across)



sasa054i_N (downstream)



sasa054i_S (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-26	Waterbody Survey ID: sasa055e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Brunsweler River	
Company: Enbridge	Crew Member Initials: NTT/DGL	Latitude: 46.396684	Longitude: -90.817602
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input checked="" type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The waterbody is a narrow ephemeral drainage that runs down a steep hillside within a hemlock-dominated forest.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: <u> 2 </u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Saplings/Shrubs <input type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Tsuga canadensis, Acer saccharum.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): None.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None.			
Observation Notes: Feature flows into intermittent waterbody sasa054i.			



sasa055e_E (downstream)



sasa055e_S (across)



sasa055e_W (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-26	Waterbody Survey ID: sasa056e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Brunsweler River	
Company: Enbridge	Crew Member Initials: NTT/DGL	Latitude: 46.396440	Longitude: -90.817562
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input checked="" type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: Narrow ephemeral drainage that meanders down a steep hillside and flows into another ephemeral channel (sasa055e).			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: <u> 2 </u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Saplings/Shrubs <input type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Tsuga canadensis, Acer saccharum.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): None.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None.			
Observation Notes: None.			



sasa056e_E (upstream)



sasa056e_S (across)



sasa056e_W (downstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-26	Waterbody Survey ID: sasa057e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Brunsweler River	
Company: Enbridge	Crew Member Initials: NTT/DGL	Latitude: 46.395832	Longitude: -90.818298
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input checked="" type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: Narrow ephemeral drainage that meanders down a steep hillside. Connects to a larger mapped intermittent drainage (sasa054i).			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: <u> 2 </u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Saplings/Shrubs <input type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Tsuga canadensis, Populus tremuloides.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): None.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None.			
Observation Notes: None.			



sasa057e_E (downstream)



sasa057e_S (across)



sasa057e_W (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-26	Waterbody Survey ID: sasa059e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Brunsweler River	
Company: Enbridge	Crew Member Initials: NTT/DGL	Latitude: 46.396216	Longitude: -90.816697
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input checked="" type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: Narrow ephemeral drainage that runs down a steep hillside along a heavily used ATV trail.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: <u> 3 </u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Saplings/Shrubs <input type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Tsuga canadensis, Ulmus americana.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): None.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): ATV trail runs parallel to drainage.			
Observation Notes: Feature flows into an intermittent feature (sasa058i).			



sasa059e_E (upstream)



sasa059e_S (across)



sasa059e_W (downstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-26	Waterbody Survey ID: sasa058i
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Brunsweler River	
Company: Enbridge	Crew Member Initials: NTT/DGL	Latitude: 46.395486	Longitude: -90.816550
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input checked="" type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: Narrow meandering drainage that runs down a steep hillside and continues into another intermittent feature (sasa054i). Litter and debris present throughout. Forest canopy dominated by hemlock and basswood.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: <u> 4 </u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Saplings/Shrubs <input type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Tsuga canadensis, Populus balsamifera.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): None.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Litter and debris throughout.			
Observation Notes: Feature connects to sasa054i outside the survey area.			



sasa058i_E (downstream)



sasa058i_N (across)



sasa058i_W (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-26	Waterbody Survey ID: sasa060e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Brunsweler River	
Company: Enbridge	Crew Member Initials: NTT/DGL	Latitude: 46.395288	Longitude: -90.815344
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <i>(check one)</i>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <i>(check one)</i>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <i>(check one)</i>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input checked="" type="checkbox"/> Functionally Impaired Stream <i>(check one)</i>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <i>(check one)</i>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <i>(check one)</i>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <i>(check one)</i>			
Description Notes: Drainage that runs through a heavily grazed cattle pasture and ends at a junk pile within the pasture.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: <u> 3 </u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <i>(check all that apply)</i>			
<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <i>(check all that apply)</i>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>(check one)</i>			
Vegetation Layers: <input type="checkbox"/> Trees <input type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <i>(check all that apply)</i>			
Dominant Bank Vegetation (list): Scirpus cyperinus, Phleum pratense, Poa pratensis.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): None.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Heavily grazed and compacted; ends in a large junk pile.			
Observation Notes: None.			



sasa060e_E (across)



sasa060e_N (downstream)



sasa060e_S (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-26	Waterbody Survey ID: sasa050e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT of Brunsweler River	
Company: Enbridge	Crew Member Initials: NTT/DGL	Latitude: 46.393536	Longitude: -90.819273
Survey Type: <input type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input checked="" type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input checked="" type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: Ditch that runs along North Pelt Rd. Located along the edge of a harvested wheat field.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: <u> 2 </u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Populus tremuloides, Phleum pratense, Bromus inermis.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): None.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Man-made feature between a gravel road and a wheat field.			
Observation Notes: None.			



sasa050e_E (across)



sasa050e_N (downstream)



sasa050e_S (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-26	Waterbody Survey ID: sasa051e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Brunsweler River	
Company: Enbridge	Crew Member Initials: NTT/DGL	Latitude: 46.393561	Longitude: -90.818372
Survey Type: <input type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input checked="" type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <i>(check one)</i>			
Waterbody Type: <input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <i>(check one)</i>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <i>(check one)</i>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input checked="" type="checkbox"/> Functionally Impaired Stream <i>(check one)</i>			
Feature Description: <input type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input checked="" type="checkbox"/> Manipulated <i>(check one)</i>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <i>(check one)</i>			
Sinuosity within Survey Corridor: <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering <i>(check one)</i>			
Description Notes: Drainage ditch that runs through tilled farm field.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: <u> 2 </u> ft.			
OHWM Indicator: <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <i>(check all that apply)</i>			
<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <i>(check all that apply)</i>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>(check one)</i>			
Vegetation Layers: <input type="checkbox"/> Trees <input type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <i>(check all that apply)</i>			
Dominant Bank Vegetation (list): Recently tilled- no vegetation.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): None.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Located within a tilled farm field.			
Observation Notes: None.			



sasa051e_E (across)



sasa051e_N (downstream)



sasa051e_S (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-27	Waterbody Survey ID: sasa061e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Brunsweler River	
Company: Enbridge	Crew Member Initials: NTT/DGL	Latitude: 46.393448	Longitude: -90.808084
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input checked="" type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: Ephemeral ditch that runs down a steep hillside and connects to a large mapped ravine outside the survey corridor.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: <u> 2 </u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Solidago canadensis, Cornus sp., Phleum pratense, Abies balsamea.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): None.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Located along an active hay field.			
Observation Notes: None.			



sasa061e_E (across)



sasa061e_NE (downstream)



sasa061e_SW (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-10-02	Waterbody Survey ID: sasb012p
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Brunsweler River	
Company: Enbridge	Crew Member Initials: KDF/SAM	Latitude: 46.391321	Longitude: -90.808420
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input type="checkbox"/> No Water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input checked="" type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The perennial stream is located within wet mesic forest, with trees lining the banks. Steep slopes are present on either side of the stream. Small sandbars are present within the stream.			
Measurements			
Depth of Water: <u>0.25</u> ft. <input type="checkbox"/> N/A <input type="checkbox"/> Unknown		Water Edge to Water Edge: <u>5</u> ft. <input type="checkbox"/> N/A <input type="checkbox"/>	
OHWM Width: <u>7</u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input checked="" type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Equisetum hyemale, Equisetum sylvaticum, Fraxinus nigra, Betula papyrifera, Carex pedunculata.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Riffles, downed woody debris, overhanging bank and roots.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Evidence of erosion.			
Observation Notes: Feature continues outside survey corridor.			



sasb012p_NE (downstream)



sasb012p_S (upstream)



sasb012p_SE (across)

APPENDIX F

Waterbody Data Sheets

Part 10 of 24

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-27	Waterbody Survey ID: sasa062p
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Brunsweler River	
Company: Enbridge	Crew Member Initials: NTT/DGL	Latitude: 46.393369	Longitude: -90.805863
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input type="checkbox"/> No Water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input checked="" type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The waterbody is a perennial stream that meanders through a steep-sided ravine.			
Measurements			
Depth of Water: <u>0.5</u> ft. <input type="checkbox"/> N/A <input type="checkbox"/> Unknown		Water Edge to Water Edge: <u>2</u> ft. <input type="checkbox"/> N/A <input type="checkbox"/> OHWM Width: <u>6</u> ft.	
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input checked="" type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Salix petiolaris, Scirpus hattorianus, Phalaris arundinacea.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Overhanging vegetation.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None.			
Observation Notes: Associated with wetland wasa121.			



sasa062p_N (downstream)



sasa062p_S (upstream)



sasa062p_W (across)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-25	Waterbody Survey ID: sase008e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Brunsweler River	
Company: Enbridge	Crew Member Initials: KDF/ARK	Latitude: 46.389414	Longitude: -90.805211
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input checked="" type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The ephemeral stream is located within a ravine, with trees lining the banks.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: ____1____ ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Fraxinus pennsylvanica, Rubus pubescens, Osmunda claytoniana, Acer rubrum, Cornus rugosa.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): None.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None.			
Observation Notes: Feature continues outside survey corridor.			



sase008e_E (upstream)



sase008e_N (across)



sase008e_W (downstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-10-03	Waterbody Survey ID: sasb017p
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Brunsweler River	
Company: Enbridge	Crew Member Initials: KDF/SAM	Latitude: 46.386887	Longitude: -90.801879
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input type="checkbox"/> No Water <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input checked="" type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The perennial stream is located in a ravine within mesic hardwood forest. It is fed by a small tributary to the southwest (outside the survey corridor).			
Measurements			
Depth of Water: <u>0.25</u> ft. N/A <input type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: <u>2.5</u> ft. N/A <input type="checkbox"/>	
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Ostrya virginiana, Tilia americana, Hamamelis virginiana, Fraxinus nigra.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Downed woody debris, overhanging banks and roots.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Apparent erosion on both banks. Garbage and debris present within the stream.			
Observation Notes: Influenced by storm events resulting in debris within the stream.			



sasb017p_N (downstream)



sasb017p_S (upstream)



sasb017p_W (across)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-10-03	Waterbody Survey ID: sasb018e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Brunsweler River	
Company: Enbridge	Crew Member Initials: KDF/SAM	Latitude: 46.385988	Longitude: -90.800239
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input checked="" type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The ephemeral stream is located in a ravine within mesic hardwood forest.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: <u> 4 </u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Fraxinus nigra, Ostrya virginiana, Viburnum acerifolium, Onoclea sensibilis, Athyrium filix-femina.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Small pools, downed woody debris.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Garbage and debris present within stream.			
Observation Notes: Feature flows through wetland wasb044e.			



sasb018e_NE (downstream)



sasb018e_NW (across)



sasb018e_SW (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-10-03	Waterbody Survey ID: sasb019p
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Brunsweler River	
Company: Enbridge	Crew Member Initials: KDF/SAM	Latitude: 46.383452	Longitude: -90.798440
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input type="checkbox"/> No Water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input checked="" type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The perennial stream is located in a ravine within mesic hardwood forest.			
Measurements			
Depth of Water: <u>0.5</u> ft. <input type="checkbox"/> N/A <input type="checkbox"/> Unknown		Water Edge to Water Edge: <u>5</u> ft. <input type="checkbox"/> N/A	OHWM Width: <u>9</u> ft.
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Solidago gigantea, Rubus allegheniensis, Fraxinus nigra, Betula alleghaniensis, Ulmus americana, Carex spp.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Downed woody debris, some areas of overhanging banks and roots, riffles.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None.			
Observation Notes: Exposed sandbars present. Feature continues outside survey corridor.			



sasb019p_N (downstream)



sasb019p_S (upstream)



sasb019p_W (across)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-10-03	Waterbody Survey ID: sasd009e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Brunsweler River	
Company: Enbridge	Crew Member Initials: AGG/OTG	Latitude: 46.383594	Longitude: -90.797756
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input type="checkbox"/> No Water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input checked="" type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The feature is a small ephemeral stream located at the bottom of a large swale. The feature flows through forest and terminates in a larger perennial waterbody (sasb019p).			
Measurements			
Depth of Water: <u>0.25</u> ft. N/A <input type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: <u>1</u> ft. N/A <input type="checkbox"/>	
OHWM Width: <u>1</u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Fraxinus nigra, Tilia americana, Equisetum hyemale.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): None.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): There is an ATV trail going through the feature.			
Observation Notes: There are areas where the stream channel becomes very diffuse.			



sasd009e_N (across)



sasd009e_NW (downstream)



sasd009e_SE (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-10-03	Waterbody Survey ID: sasd008e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Brunsweler River	
Company: Enbridge	Crew Member Initials: AGG/OTG	Latitude: 46.383326	Longitude: -90.796072
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input type="checkbox"/> No Water <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input checked="" type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: Feature is an ephemeral waterbody flowing through forest. There is only water present at the time of survey due to recent heavy rain events.			
Measurements			
Depth of Water: <u>0.25</u> ft. <input type="checkbox"/> N/A <input type="checkbox"/> Unknown		Water Edge to Water Edge: <u>1</u> ft. <input type="checkbox"/> N/A	
OHWM Width: <u>1</u> ft.			
OHWM Indicator: <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Tilia americana, Fraxinus nigra, Ostrya virginiana, Carex crinita.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Litter and debris.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): ATV trail passes through the stream.			
Observation Notes: Feature continues outside survey corridor.			



sasd008e_NE (downstream)



sasd008e_NW (across)



sasd008e_SW (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-28	Waterbody Survey ID: sase015e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Trout Brook	
Company: Enbridge	Crew Member Initials: KDF/ARK	Latitude: 46.383151	Longitude: -90.787930
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input checked="" type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input checked="" type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The ephemeral stream extends from a roadside ditch into a pasture.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: <u> 2 </u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Salix petiolaris, Cornus sericea, Rubus alleghaniensis, Solidago canadensis.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Downed woody debris.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Livestock access.			
Observation Notes: Feature converges with sase013e outside the survey corridor.			



sase015e_N (downstream)



sase015e_SW (upstream)



sase015e_W (across)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-26	Waterbody Survey ID: sase013e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Trout Brook	
Company: Enbridge	Crew Member Initials: KDF/ARK	Latitude: 46.383031	Longitude: -90.787893
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <i>(check one)</i>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <i>(check one)</i>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <i>(check one)</i>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input checked="" type="checkbox"/> Functionally Impaired Stream <i>(check one)</i>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <i>(check one)</i>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <i>(check one)</i>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <i>(check one)</i>			
Description Notes: The ephemeral stream is located within a pasture.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/> OHWM Width: <u> 1 </u> ft.	
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <i>(check all that apply)</i>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <i>(check all that apply)</i>			
Observations			
Riparian Zone Present: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(check one)</i>			
Vegetation Layers: <input type="checkbox"/> Trees <input type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <i>(check all that apply)</i>			
Dominant Bank Vegetation (list): Scirpus atrovirens, Impatiens capensis.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): None.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Cattle activity, manure within the stream bed.			
Observation Notes: Feature associated with wetland wase027e.			



sase013e_E (across)



sase013e_N (downstream)



sase013e_S (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-26	Waterbody Survey ID: sase012e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Trout Brook	
Company: Enbridge	Crew Member Initials: KDF/ARK	Latitude: 46.383709	Longitude: -90.785758
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input checked="" type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The ephemeral stream is located in a ravine within mesic forest, with trees lining the banks.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: <u> 3 </u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Fraxinus nigra, Ostrya virginiana, Acer rubrum, Corylus cornuta, Athyrium filix-femina, Carex pedunculata.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Overhanging bank and roots.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None.			
Observation Notes: Feature continues outside survey corridor.			



sase012e_N (downstream)



sase012e_NE (across)



sase012e_S (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-26	Waterbody Survey ID: sase011e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Trout Brook	
Company: Enbridge	Crew Member Initials: KDF/ARK	Latitude: 46.383661	Longitude: -90.783334
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <i>(check one)</i>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <i>(check one)</i>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <i>(check one)</i>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input checked="" type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <i>(check one)</i>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <i>(check one)</i>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <i>(check one)</i>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <i>(check one)</i>			
Description Notes: The stream is located in a ravine within mesic forest, with trees lining the banks. One small pool is present within the stream.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: <u> 4 </u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <i>(check all that apply)</i>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <i>(check all that apply)</i>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>(check one)</i>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <i>(check all that apply)</i>			
Dominant Bank Vegetation (list): Betula alleghaniensis, Fraxinus nigra, Ostrya virginiana, Acer saccharum, Tilia americana, Corylus cornuta, Carex pedunculata.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Overhanging banks and roots.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None.			
Observation Notes: Feature extends outside survey corridor.			



sase011e_E (across)



sase011e_N (downstream)



sase011e_S (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-10-03	Waterbody Survey ID: sasb016i
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Trout Brook	
Company: Enbridge	Crew Member Initials: KDF/SAM	Latitude: 46.384012	Longitude: -90.782241
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input type="checkbox"/> No Water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input checked="" type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The intermittent stream is located within mesic hardwood forest. Water flows in this feature after precipitation events.			
Measurements			
Depth of Water: <u>0.25</u> ft. <input type="checkbox"/> N/A <input type="checkbox"/> Unknown		Water Edge to Water Edge: <u>4</u> ft. <input type="checkbox"/> N/A <input type="checkbox"/> OHWM Width: <u>6</u> ft.	
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Fraxinus nigra, Acer saccharum, Hamamelis virginiana, Pyrola elliptica, Ribes americanum.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Downed woody debris, overhanging banks and roots in some areas.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None.			
Observation Notes: Debris from storm events is evident within the stream and surrounding area. Exposed sandbars are present.			



sasb016i_N (downstream)



sasb016i_S (upstream)



sasb016i_W (across)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-10-02	Waterbody Survey ID: sasb015e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Trout Brook	
Company: Enbridge	Crew Member Initials: KDF/SAM	Latitude: 46.388503	Longitude: -90.776339
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input type="checkbox"/> Stream <input type="checkbox"/> Ditch <input checked="" type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input checked="" type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The ephemeral feature is located in a ravine within mesic hardwood forest, and discharges to wasb035f.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: <u> 2 </u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Equisetum hyemale, Athyrium filix-femina, Fraxinus nigra, Betula alleghaniensis.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Downed woody debris, overhanging bank and roots.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Garbage dumped within the waterway.			
Observation Notes: No water is present within the swale.			



sasb015e_N (upstream)



sasb015e_S (downstream)



sasb015e_W (across)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-25	Waterbody Survey ID: sase009p
State: WI	County/Parish: Ashland	USGS Waterbody Name: Trout Brook	
Company: Enbridge	Crew Member Initials: KDF/ARK	Latitude: 46.388138	Longitude: -90.775285
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input type="checkbox"/> No Water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input checked="" type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The perennial stream is located within a mesic forest, with trees lining the banks. Some bank erosion is present, where there is a greater topographical difference between the banks. Areas along the banks are highly disturbed; logging activity is present along both sides of the river, increasing downed woody debris submerged in the water.			
Measurements			
Depth of Water: <u>1</u> ft. N/A <input type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: <u>15</u> ft. N/A <input type="checkbox"/>	
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Acer saccharum, Fraxinus nigra, Ostrya virginiana, Solidago flexicaulis, Tilia americana, Maianthemum canadense.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Overhanging banks and roots, riffles, deep pools, downed woody debris.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Erosion, loggin activity.			
Observation Notes: Feature associated with wetland wase020e.			



sase009p_NE (downstream)



sase009p_NW (across)



sase009p_SW (upstream)

APPENDIX F

Waterbody Data Sheets

Part 11 of 24

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-10-02	Waterbody Survey ID: sasb014e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Trout Brook	
Company: Enbridge	Crew Member Initials: KDF/SAM	Latitude: 46.388602	Longitude: -90.773070
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input checked="" type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input checked="" type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The ephemeral feature starts as a gully and is located in a ravine within mesic hardwood forest, with trees lining the banks. The feature connects with sasb013e.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: <u> 2 </u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Fraxinus nigra, Acer rubrum, Tilia americana, Pyrola elliptica, Carex pedunculata, Athyrium filix-femina, Solidago flexicaulis, Symphyotrichum lateriflorum, Mitchella repens.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Downed woody debris, overhanging banks and roots.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None.			
Observation Notes: No water is present within the swale.			



sasb014e_E (upstream)



sasb014e_SW (across)



sasb014e_W (downstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-10-02	Waterbody Survey ID: sasb013e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Trout Brook	
Company: Enbridge	Crew Member Initials: KDF/SAM	Latitude: 46.388606	Longitude: -90.773126
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input type="checkbox"/> Stream <input type="checkbox"/> Ditch <input checked="" type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input checked="" type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The ephemeral feature is located within a ravine in mesic hardwood forest, with trees lining the banks. A second feature, sasb014e, flows into the feature.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: <u> 2 </u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Fraxinus nigra, Tilia americana, Pyrola elliptica, Carex pedunculata, Athyrium filix-femina, Solidago flexicaulis, Symphyotrichum lateriflorum.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Downed woody debris, overhanging bank and roots.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None.			
Observation Notes: No water is present within the swale.			



sasb013e_NE (across)



sasb013e_NW (downstream)



sasb013e_SE (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-10-07	Waterbody Survey ID: sase019i
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Billy Creek	
Company: Enbridge	Crew Member Initials: ARK/OTG	Latitude: 46.390900	Longitude: -90.770458
Survey Type: <input type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input checked="" type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <i>(check one)</i>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <i>(check one)</i>			
Water Appearance: <input type="checkbox"/> No Water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <i>(check one)</i>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input checked="" type="checkbox"/> Functionally Impaired Stream <i>(check one)</i>			
Feature Description: <input type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input checked="" type="checkbox"/> Manipulated <i>(check one)</i>			
Flow Regime: <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <i>(check one)</i>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <i>(check one)</i>			
Description Notes: Intermittent stream, manipulated by construction of road and culvert.			
Measurements			
Depth of Water: <u>0.5</u> ft. N/A <input type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: <u>4</u> ft. N/A <input type="checkbox"/>	
OHWM Indicator: <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <i>(check all that apply)</i>			
<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <i>(check all that apply)</i>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>(check one)</i>			
Vegetation Layers: <input type="checkbox"/> Trees <input type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <i>(check all that apply)</i>			
Dominant Bank Vegetation (list): Phalaris arundinacea.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): None.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Run-off from road.			
Observation Notes: None.			



sase019i_NW (downstream)



sase019i_SE (upstream)



sase019i_SW (across)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-26	Waterbody Survey ID: sase010p
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Billy Creek	
Company: Enbridge	Crew Member Initials: KDF/ARK	Latitude: 46.388613	Longitude: -90.770853
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input type="checkbox"/> No Water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input checked="" type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The ephemeral stream is located within mesic forest, with trees lining the banks.			
Measurements			
Depth of Water: <u>0.25</u> ft. <input type="checkbox"/> N/A <input type="checkbox"/> Unknown		Water Edge to Water Edge: <u>3</u> ft. <input type="checkbox"/> N/A	
OHWM Width: <u>5</u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Betula papyrifera, Betula alleghaniensis, Tsuga canadensis, Dryopteris intermedia, Acer saccharum, Fraxinus nigra, Athyrium filix-femina, Solidago flexicaulis, Carex pedunculata.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Overhanging bank and roots, downed woody debris.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None.			
Observation Notes: Feature continues outside survey corridor.			



sase010p_E (across)



sase010p_N (downstream)



sase010p_S (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-06	Waterbody Survey ID: sasb002e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Billy Creek	
Company: Enbridge	Crew Member Initials: MAL/SAM	Latitude: 46.387104	Longitude: -90.770943
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <i>(check one)</i>			
Waterbody Type: <input type="checkbox"/> River <input type="checkbox"/> Stream <input type="checkbox"/> Ditch <input checked="" type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <i>(check one)</i>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <i>(check one)</i>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input checked="" type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <i>(check one)</i>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <i>(check one)</i>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <i>(check one)</i>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <i>(check one)</i>			
Description Notes: Natural ephemeral swale, somewhat erosional.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: <u> 2 </u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <i>(check all that apply)</i>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <i>(check all that apply)</i>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>(check one)</i>			
Vegetation Layers: <input type="checkbox"/> Trees <input type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <i>(check all that apply)</i>			
Dominant Bank Vegetation (list): Carex pedunculata. Athyrium filix-femina present on slopes.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): None.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Erosion.			
Observation Notes: Small ephemeral swale feature within a mesic hardwood forest dominated by sugar maple and basswood.			



sasb002e_N (upstream)



sasb002e_NW (across)



sasb002e_SW (downstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-25	Waterbody Survey ID: sasc028e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Billy Creek	
Company: Enbridge	Crew Member Initials: BRG/JSW	Latitude: 46.388681	Longitude: -90.767585
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <i>(check one)</i>			
Waterbody Type: <input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <i>(check one)</i>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <i>(check one)</i>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input checked="" type="checkbox"/> Functionally Impaired Stream <i>(check one)</i>			
Feature Description: <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <i>(check one)</i>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <i>(check one)</i>			
Sinuosity within Survey Corridor: <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering <i>(check one)</i>			
Description Notes: The feature is a ditch adjacent to a gravel road.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: <u> 2 </u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <i>(check all that apply)</i>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <i>(check all that apply)</i>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>(check one)</i>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <i>(check all that apply)</i>			
Dominant Bank Vegetation (list): Acer rubrum, Tilia americana, Ulmus americana, Fraxinus pennsylvanica, Cornus sericea, Acer saccharum, Poa pratensis, Dactylis glomerata.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): None.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Runoff from gravel road.			
Observation Notes: The feature is somewhat eroded, and is directly adjacent to a treeline and barbed wire fence.			



sasc028e_E (across)



sasc028e_N (downstream)



sasc028e_S (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-25	Waterbody Survey ID: sasc027e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Billy Creek	
Company: Enbridge	Crew Member Initials: BRG/JSW	Latitude: 46.388531	Longitude: -90.766978
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <i>(check one)</i>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <i>(check one)</i>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <i>(check one)</i>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input checked="" type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <i>(check one)</i>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <i>(check one)</i>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <i>(check one)</i>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <i>(check one)</i>			
Description Notes: The feature is a small ephemeral stream running down a slope into wetland wasc034e.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: _____ ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <i>(check all that apply)</i>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <i>(check all that apply)</i>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>(check one)</i>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <i>(check all that apply)</i>			
Dominant Bank Vegetation (list): Acer saccharum, Ulmus americana, Fraxinus pennsylvanica, Tilia americana, Symphyotrichum lateriflorum.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): None.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Runoff from sparsely vegetated wooded slopes.			
Observation Notes: The feature is somewhat erosional in nature, and the banks are sparsely vegetated. Waterbody flows into sasc026e.			



sasc027e_E (downstream)



sasc027e_N (across)



sasc027e_W (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-25	Waterbody Survey ID: sasc026e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Billy Creek	
Company: Enbridge	Crew Member Initials: BRG/JSW	Latitude: 46.388894	Longitude: -90.766694
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input type="checkbox"/> No Water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input checked="" type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The stream is a small ephemeral feature that runs through wetland wasc034e.			
Measurements			
Depth of Water: <u>0.1</u> ft. <input type="checkbox"/> N/A <input type="checkbox"/> Unknown		Water Edge to Water Edge: <u>0.5</u> ft. <input type="checkbox"/> N/A <input type="checkbox"/> OHWM Width: <u>2</u> ft.	
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Impatiens capensis, Scirpus cyperinus, Scirpus hattorianus, Glyceria striata, Fraxinus nigra, Acer nigra, Typha X glauca.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Overhanging vegetation.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None.			
Observation Notes: The stream is somewhat erosional, although the dense bank vegetation reduces erosion. The low elevation of the stream means that the wetland sometimes feeds it water.			



sasc026e_E (across)



sasc026e_N (downstream)



sasc026e_S (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-25	Waterbody Survey ID: sasc025e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Billy Creek	
Company: Enbridge	Crew Member Initials: BRG/JSW	Latitude: 46.388911	Longitude: -90.763609
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input type="checkbox"/> No Water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input checked="" type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The feature is a small ephemeral stream that runs through the edge of wetland wasc032e and into a culvert under a paved road.			
Measurements			
Depth of Water: <u>0.2</u> ft. <input type="checkbox"/> N/A <input type="checkbox"/> Unknown		Water Edge to Water Edge: <u>2</u> ft. <input type="checkbox"/> N/A	
OHWM Width: <u>2</u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Phalaris arundinacea, Glyceria striata, Carex crinita, Tilia americana.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Overhanging vegetation.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Runoff from paved road.			
Observation Notes: The feature has thickly vegetated banks consisting of reed canary grass, and is associated with wetland wasc032e. Parts of the feature border upland woodlands instead of the wetland.			



sasc025e_E (across)



sasc025e_N (downstream)



sasc025e_S (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-25	Waterbody Survey ID: sasc023e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Billy Creek	
Company: Enbridge	Crew Member Initials: BRG/JSW	Latitude: 46.388751	Longitude: -90.760201
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input checked="" type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The feature is a small erosional stream that leads into perennial stream feature sasc022p. The feature starts at the base of a hill as a seep/runoff collecting feature.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: <u> 2 </u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Saplings/Shrubs <input type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Thuja occidentalis, Betula alleghaniensis, Tilia americana. Understory vegetation is very sparse due to disturbance of the landscape.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): None.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Runoff from uphill paved road, runoff from sparsely vegetated slope, heavy worm activity.			
Observation Notes: The feature is highly erosional due to disturbance to the surrounding landscape and increased runoff.			



sasc023e_N (downstream)



sasc023e_S (upstream)



sasc023e_W (across)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-25	Waterbody Survey ID: sasc022p
State: WI	County/Parish: Ashland	USGS Waterbody Name: Billy Creek	
Company: Enbridge	Crew Member Initials: BRG/JSW	Latitude: 46.388868	Longitude: -90.759932
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input type="checkbox"/> No Water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input checked="" type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The feature is an erosional stream with fast-flowing, somewhat turbulent water.			
Measurements			
Depth of Water: <u>0.5</u> ft. <input type="checkbox"/> N/A <input type="checkbox"/> Unknown		Water Edge to Water Edge: <u>5</u> ft. <input type="checkbox"/> N/A	OHWM Width: <u>6</u> ft.
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Saplings/Shrubs <input type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Thuja occidentalis, Tsuga canadensis, Betula alleghaniensis, Tilia americana. Very little understory vegetation is present.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Riffles.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Runoff from nearby road, human activity.			
Observation Notes: The stream is located in a highly disturbed forest, in a valley between two steep slopes. The stream runs into a culvert underneath the nearby paved road.			



sasc022p_N (downstream)



sasc022p_S (upstream)



sasc022p_W (across)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-25	Waterbody Survey ID: sasc024e
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Billy Creek	
Company: Enbridge	Crew Member Initials: BRG/JSW	Latitude: 46.389523	Longitude: -90.759793
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <i>(check one)</i>			
Waterbody Type: <input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <i>(check one)</i>			
Water Appearance: <input type="checkbox"/> No Water <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <i>(check one)</i>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input checked="" type="checkbox"/> Functionally Impaired Stream <i>(check one)</i>			
Feature Description: <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <i>(check one)</i>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <i>(check one)</i>			
Sinuosity within Survey Corridor: <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering <i>(check one)</i>			
Description Notes: The feature is a small roadside ditch. The banks are thickly vegetated with a small riparian fringe, and some water runs from the feature down into perennial waterbody sasc022p.			
Measurements			
Depth of Water: <u>0.1</u> ft. <input type="checkbox"/> N/A <input type="checkbox"/> Unknown		Water Edge to Water Edge: <u>1</u> ft. <input type="checkbox"/> N/A <input type="checkbox"/> OHWM Width: <u>2</u> ft.	
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <i>(check all that apply)</i>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <i>(check all that apply)</i>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>(check one)</i>			
Vegetation Layers: <input type="checkbox"/> Trees <input type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <i>(check all that apply)</i>			
Dominant Bank Vegetation (list): Phalaris arundinacea, Scirpus cyperinus, Juncus effusus, Rumex crispus.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Overhanging vegetation.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Runoff from paved road.			
Observation Notes: The water has very little flow, and as such provides some aquatic habitat. The feature collects stormwater runoff.			



sasc024e_E (upstream)



sasc024e_N (across)



sasc024e_W (downstream)

Linear Waterbody Data Sheet

Survey Description					
Project Name: Line 5 Relocation Project		Waterbody Name: Billy Creek		Waterbody ID: sasw015	Date: 10/5/2019
State: WI	County: Ashland	Company: West	Crew Member Initials: ES, WC	Photos: 7896,98-99	
Tract Number(s): WI-AS-165.001		Nearest Milepost 18.7		Associated Wetland ID(s): wasw034f	
Survey Type: (check one) <input type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input checked="" type="checkbox"/> Access Road <input type="checkbox"/> Other:					
Physical Attributes					
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial					
Waterbody Type: (check one) <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:					
OHWM Width: <u>8</u> ft. Height: <u>2</u> ft. N/A <input type="checkbox"/>		OHWM Indicator: (check all that apply) <input type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Width of Waterbody - Top of Bank to Top of Bank: <u>18</u> ft.		Width of Waterbody - Toe of Slope to Toe of Slope: <u>15</u> ft.		Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> <u>6</u> ft.	
Depth of Water: (Approx.) N/A <input type="checkbox"/> <u>8</u> in <u>0</u> ft.		Sinuosity: (check one) <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		Water velocity: (Approx.) <u>2</u> fps N/A <input type="checkbox"/>	
Bank height Right: <u>3.5</u> ft. Left: <u>4</u> ft.		Bank slope Right: <u>70</u> degrees Left: <u>80</u> degrees			
Qualitative Attributes					
Water Appearance: (check one) <input type="checkbox"/> No water <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:					
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other: % of Substrate: <u> </u> % <u> </u> % <u> </u> % <u>15</u> % <u>70</u> % <u>15</u> % <u> </u> % <u> </u> %					
Width of Riparian Zone: N/A <input checked="" type="checkbox"/> <u> </u> ft.		Vegetative Layers: (check all that apply) <input type="checkbox"/> Trees: <u>16</u> in. <input type="checkbox"/> Saplings/Shrubs: <u>5</u> in. <input type="checkbox"/> Herbs: <u> </u> in. Avg. DBH of Dominants: (approx.)			
Dominant Bank Vegetation (list): <i>Juniperus virginiana, Betula alleghaniensis, Equisteum arvense, Carex bromoides</i>					
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Log jams, leaf packs, large wood					
Aquatic Organisms Observed (list): Ranid frog, <i>Lithobates clamitans</i> or <i>catesbeianus</i>					
T&E Species Observed (list):					
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Mowed vegetation and erosion along overhead utility corridor					
Waterbody is: (check one) <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated					
Stream Quality ^a : (check one) <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low					

Waterbody ID:

sasw015

^a **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)



sasw015



APPENDIX F

Waterbody Data Sheets

Part 12 of 24

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-18	Waterbody Survey ID: sase001p
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT	
Company: Enbridge	Crew Member Initials: KDF/ARK	Latitude: 46.372067	Longitude: -90.72782
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input type="checkbox"/> No Water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input checked="" type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The perennial stream is located within a hardwood swamp, with trees and shrubs lining the bank.			
Measurements			
Depth of Water: <u>0.5</u> ft. <input type="checkbox"/> N/A <input type="checkbox"/> Unknown		Water Edge to Water Edge: <u>3</u> ft. <input type="checkbox"/> N/A	
OHWM Width: <u>5</u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): The dominant bank vegetation is Thuja occidentalis, Corylus cornuta, and Matteuccia struthiopteris.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Downed woody debris, rock piles.			
Aquatic Organisms Observed (list): Aquatic invertebrates.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None.			
Observation Notes: Feature is associated with a forested wetland (wase002f).			



sase001p_NE (upstream)



sase001p_SE (across)



sase001p_W (downstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-19	Waterbody Survey ID: sase002e
State: Wisconsin	County/Parish: Ashland	USGS Waterbody Name: UNT to Silver Creek	
Company: ONEOK	Crew Member Initials: KDF/ARK	Latitude: 46.371921	Longitude: -90.724004
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input checked="" type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The ephemeral stream is located in a ravine within a northern mesic forest, discharging into a river. Trees line the bank, and there is apparent bank erosion.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: <u> 2 </u> ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input checked="" type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): The dominant bank vegetation is Fraxinus nigra, Athyrium filix-femina, and Mitchella repens.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): None.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None.			
Observation Notes: Feature is fed by an ephemeral stream (sase003e).			



sase002e_E (downstream)



sase002e_N (across)



sasc002e_S (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-19	Waterbody Survey ID: sase003e
State: Wisconsin	County/Parish: Ashland	USGS Waterbody Name: UNT to Silver Creek	
Company: Enbridge	Crew Member Initials: KDF/ARK	Latitude: 46.371907	Longitude: -90.723766
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input checked="" type="checkbox"/> No Water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input checked="" type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The ephemeral stream is located in a ravine within a northern mesic forest. The stream connects to sase002e and discharges into nearby river. Trees line the bank.			
Measurements			
Depth of Water: _____ ft. N/A <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	
OHWM Width: ____1____ ft.			
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input checked="" type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Fraxinus nigra, Athyrium filix-femina, and Carex pedunculata.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Downed woody debris.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None.			
Observation Notes: No water currently present.			



sase003e_E (downstream)



sase003e_S (upstream)



sase003e_W (across)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-19	Waterbody Survey ID: sase004p
State: Wisconsin	County/Parish: Ashland	USGS Waterbody Name: Silver Creek	
Company: ONEOK	Crew Member Initials: KDF/ARK	Latitude: 46.371407	Longitude: -90.722678
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input type="checkbox"/> No Water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input checked="" type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The waterbody is located within a northern mesic forest, with trees lining the bank.			
Measurements			
Depth of Water: <u>1</u> ft. <input type="checkbox"/> N/A <input type="checkbox"/> Unknown		Water Edge to Water Edge: <u>10</u> ft. <input type="checkbox"/> N/A <input type="checkbox"/> OHWM Width: <u>14</u> ft.	
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input checked="" type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): The dominant bank vegetation is Fraxinus nigra, Betula alleghaniensis, Myosoton scorpioides, Symphyotricum lateriflorum, Solanum dulcamara, and Cardamine pensylvanica.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Overhanging banks/roots, riffles, pools.			
Aquatic Organisms Observed (list): Frogs, aquatic invertebrates.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None.			
Observation Notes: Narrow fringe wetland is present, but no floodplain was mapped.			



sasc004p_E (downstream)



sasc004p_N (across)



sasc004p_W (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-10-17	Waterbody Survey ID: sasa071p
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Silver Creek	
Company: Enbridge	Crew Member Initials: BRG/DGL	Latitude: 46.373815	Longitude: -90.712906
Survey Type: <input type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input checked="" type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input checked="" type="checkbox"/> River <input type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input type="checkbox"/> No Water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input checked="" type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input checked="" type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The feature is a large perennial stream surrounded by alder thicket wetland.			
Measurements			
Depth of Water: <u>1</u> ft. N/A <input type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: <u>12</u> ft. N/A <input type="checkbox"/>	
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Alnus incana, Tilia americana, Acer rubrum, Fraxinus nigra, Carex crinita, Solidago gigantea, Glyceria striata.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Woody debris, pools.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Runoff from gravel road.			
Observation Notes: The feature runs through several culverts, and is fast-flowing. Several rain events occurred in the days prior to survey.			



sasa071p_N (downstream)



sasa071p_S (upstream)



sasa071p_W (across)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-10-17	Waterbody Survey ID: sasa070e
State: WI	County/Parish: Ashland	USGS Waterbody Name: None	
Company: Enbridge	Crew Member Initials: BRG/DGL	Latitude: 46.375348	Longitude: -90.709502
Survey Type: <input type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input checked="" type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input type="checkbox"/> No Water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input type="checkbox"/> Highly Functional Stream <input checked="" type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input checked="" type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The feature is an ephemeral stream located near a gravel road.			
Measurements			
Depth of Water: <u>0.2</u> ft. N/A <input type="checkbox"/> Unknown <input type="checkbox"/>		Water Edge to Water Edge: <u>2</u> ft. N/A <input type="checkbox"/>	
OHWM Indicator: <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): Acer saccharum, Tilia americana, Rubus idaeus, Carex gracillima, Carex pedunculata, Fraxinus americana.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Pools.			
Aquatic Organisms Observed (list): None.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Runoff from gravel road.			
Observation Notes: Outside of the survey area, the stream is associated with a wetland feature around the banks. The feature originates from a culvert and runs into a young forest.			



sasa070e_NE (across)



sasa070e_NW (downstream)



sasa070e_SE (upstream)

Waterbody Data Sheet

Description			
Project Name: Line 5 Relocation Project		Date: 2019-09-21	Waterbody Survey ID: sase005p
State: WI	County/Parish: Ashland	USGS Waterbody Name: UNT to Silver Creek	
Company: Enbridge	Crew Member Initials: KDF/ARK	Latitude: 46.364877	Longitude: -90.707534
Survey Type: <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other <small>(check one)</small>			
Waterbody Type: <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other <small>(check one)</small>			
Water Appearance: <input type="checkbox"/> No Water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other <small>(check one)</small>			
Existing Condition^a: <input checked="" type="checkbox"/> Highly Functional Stream <input type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream <small>(check one)</small>			
Feature Description: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated <small>(check one)</small>			
Flow Regime: <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale <small>(check one)</small>			
Sinuosity within Survey Corridor: <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering <small>(check one)</small>			
Description Notes: The perennial stream is located within a mesic forest, with moss lining the banks.			
Measurements			
Depth of Water: <u>1</u> ft. <input type="checkbox"/> N/A <input type="checkbox"/> Unknown		Water Edge to Water Edge: <u>8</u> ft. <input type="checkbox"/> N/A	OHWM Width: <u>9</u> ft.
OHWM Indicator: <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <small>(check all that apply)</small>			
<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Dominant Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <small>(check all that apply)</small>			
Observations			
Riparian Zone Present: <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>(check one)</small>			
Vegetation Layers: <input checked="" type="checkbox"/> Trees <input checked="" type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <small>(check all that apply)</small>			
Dominant Bank Vegetation (list): The dominant bank vegetation is Acer saccharum, Tilia americana, Matteuccia struthiopteris, and Brachyelytrum erectum.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Downed woody debris, riffles, overhanging roots and vegetation.			
Aquatic Organisms Observed (list): Aquatic invertebrates.			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None.			
Observation Notes: None.			



sase005p_E (across)



sase005p_N (upstream)



sase005p_S (downstream)

Linear Waterbody Data Sheet

Survey Description				
Project Name: Line 5		Waterbody Name: Unnamed tributary to Silver Creek		Waterbody ID: SASV002e
State: Wisconsin		County: Ashland	Company: VHB	Crew Member Initials: CS, CC
Tract Number(s): WI-AS-189.000		Nearest Milepost 21.20		Associated Wetland ID(s): WASV014, WASV015
Survey Type: (check one) <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: (check one) <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial				
Waterbody Type: (check one) <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: 4 ft.		OHWM Indicator: (check all that apply) <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input checked="" type="checkbox"/> Water staining		
Height: 1 in.		<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
N/A <input type="checkbox"/>				
Width of Waterbody - Top of Bank to Top of Bank: 5 ft.		Width of Waterbody - Toe of Slope to Toe of Slope: 4 ft.		Width of Waterbody - Water Edge to Water Edge: N/A <input checked="" type="checkbox"/> ft.
Depth of Water: (Approx.) N/A <input checked="" type="checkbox"/> in.				
Sinuosity: (check one) <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering		Water velocity: (Approx.) N/A <input checked="" type="checkbox"/> fps		Bank height Right: 2 ft. Left: 2 ft.
Bank slope Right: 70 degrees Left: 70 degrees				
Qualitative Attributes				
Water Appearance: (check one) <input checked="" type="checkbox"/> No water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input checked="" type="checkbox"/> Organic <input type="checkbox"/> Other:				
% of Substrate: _____% _____% 80 % 15 % _____% _____% 5 % _____%				
Width of Riparian Zone: 100 ft.		Vegetative Layers: (check all that apply) <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs		
N/A <input type="checkbox"/>		Avg. DBH of Dominants: (approx.) 12 in. 2 in. _____ in.		
Dominant Bank Vegetation (list): <i>Carex scabrata, Acer saccharum, Athyrium felix-femina</i>				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): None				
Aquatic Organisms Observed (list): None				
T&E Species Observed (list): None				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None				
Waterbody is: (check one) <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality ^a : (check one) <input checked="" type="checkbox"/> High <input type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:

SASV002e

^a **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Feature is an ephemeral stream originating from WASV015f and draining down to WASV014f. Rock and gravel substrate is present in channel with small pools of standing water present.

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)





Photograph 1: SASV002e, North, Across stream



Photograph 2: SASV002e, West, Upstream



Photograph 3: SASV002e, East, Downstream

Linear Waterbody Data Sheet

Survey Description				
Project Name: Line 5		Waterbody Name: Unnamed tributary to Silver Creek		Waterbody ID: SASV003p
Date: 9/21/2019				
State: Wisconsin	County: Ashland	Company: VHB	Crew Member Initials: CS, CC	Photos: 3 (US, DS, CS)
Tract Number(s): WI-AS-190.000		Nearest Milepost 21.10		Associated Wetland ID(s): None
Survey Type: (check one) <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial				
Waterbody Type: (check one) <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: <u>6</u> ft. Height: <u>1</u> in. N/A <input type="checkbox"/>		OHWM Indicator: (check all that apply) <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
Width of Waterbody - Top of Bank to Top of Bank: <u>8</u> ft.	Width of Waterbody - Toe of Slope to Toe of Slope: <u>5.5</u> ft.	Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> <u>5.5</u> ft.	Depth of Water: (Approx.) N/A <input type="checkbox"/> <u>1-3</u> in.	
Sinuosity: (check one) <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering	Water velocity: (Approx.) <u>1</u> fps N/A <input type="checkbox"/>	Bank height Right: <u>4</u> ft. Left: <u>4</u> ft.	Bank slope Right: <u>90</u> degrees Left: <u>45</u> degrees	
Qualitative Attributes				
Water Appearance: (check one) <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other: % of Substrate: _____% _____% <u>60</u> % <u>30</u> % <u>10</u> % _____% _____% _____%				
Width of Riparian Zone: <u>200</u> ft. N/A <input type="checkbox"/>	Vegetative Layers: (check all that apply) <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs Avg. DBH of Dominants: <u>5</u> in. <u>2</u> in. _____ in. (approx.)			
Dominant Bank Vegetation (list): <i>Carex bromoides, Impatiens capensis, Symphyotrichum lateriflorum</i>				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Leaf packs, overhanging banks, logs in stream, riffles, pools				
Aquatic Organisms Observed (list): <i>Coleoptera, Plecoptera</i>				
T&E Species Observed (list): None				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Livestock access, cow pasture				
Waterbody is: (check one) <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality ^a : (check one) <input checked="" type="checkbox"/> High <input type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:

SASV003p

^a **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

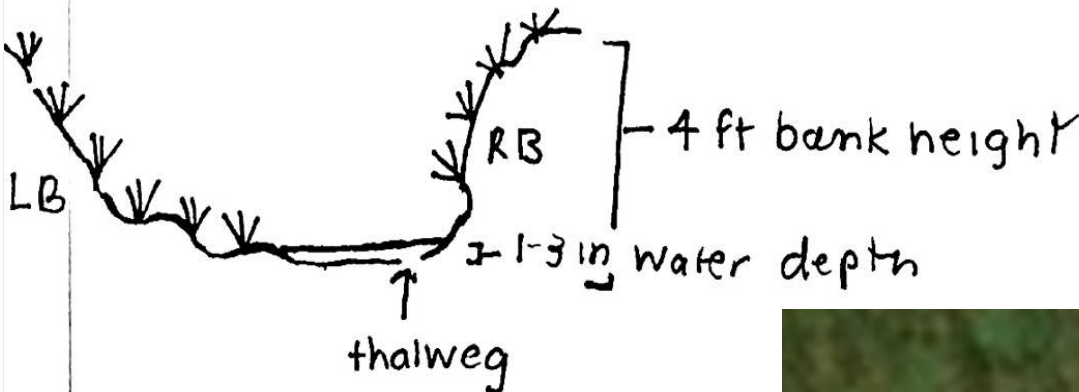
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Perennial stream within wooded portion of cow pasture. Stream shows signs of erosion and compaction from cow use, but no signs of heavy use. No signs of manure in or around stream. Flows northwest off-site.

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)





Photograph 1: SASV003p, North, Downstream



Photograph 2: SASV003p, South, Upstream



Photograph 3: SASV003p, East, Across Stream

Linear Waterbody Data Sheet

Survey Description				
Project Name: Line 5		Waterbody Name: Unnamed tributary to Silver Creek		Waterbody ID: SASV001p
State: Wisconsin		County: Ashland	Company: VHB	Crew Member Initials: CS, CC
Tract Number(s): WI-AS-189.000		Nearest Milepost N/A – Access Road		Photos: 3 (US, DS, CS)
Associated Wetland ID(s): WASV006e, WASV007e				
Survey Type: (check one) <input type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input checked="" type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial				
Waterbody Type: (check one) <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: 1 ft.		OHWM Indicator: (check all that apply) <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input checked="" type="checkbox"/> Water staining		
Height: 2 in.		<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input checked="" type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
N/A <input type="checkbox"/>				
Width of Waterbody - Top of Bank to Top of Bank: 1 ft.		Width of Waterbody - Toe of Slope to Toe of Slope: 1 ft.		Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> 1 ft.
Depth of Water: (Approx.) N/A <input type="checkbox"/> 3-6 in.				
Sinuosity: (check one) <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		Water velocity: (Approx.) 0.25 fps N/A <input type="checkbox"/>		Bank height Right: 0.5 ft. Left: 0.5 ft.
Bank slope Right: 90 degrees Left: 90 degrees				
Qualitative Attributes				
Water Appearance: (check one) <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input checked="" type="checkbox"/> Organic <input type="checkbox"/> Other:				
% of Substrate: _____% _____% _____% 5% _____% 35% 60% _____%				
Width of Riparian Zone: 200 ft. N/A <input type="checkbox"/>		Vegetative Layers: (check all that apply) <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs		
Avg. DBH of Dominants: (approx.) 6 in.		2 in. _____ in.		
Dominant Bank Vegetation (list): <i>Calamagrotis canadensis, Impatiens capensis, Onoclea sensibilis</i>				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Overhanging banks/roots, leaf packs, riffles				
Aquatic Organisms Observed (list): <i>Coleoptera, Diptera</i>				
T&E Species Observed (list): N/A				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Culverted under access road				
Waterbody is: (check one) <input type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input checked="" type="checkbox"/> Manipulated				
Stream Quality ^a : (check one) <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:

SASV001p

^a **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Stream is culverted under access road for about 10ft with a 16in diameter pipe. Floodplain wetlands WASV006e and WASV007e connected to stream. Bed and bank are less defined in seepy eastern portions; stream goes subterranean on western half near edge of study area. Culvert is too small to support stormwater events.

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)



Linear Waterbody Point Photographs
Line 5 Wetland Delineation
September 19, 2019, Page 1 of 2



Photograph 1: SASV001p, North, Across stream



Photograph 2: SASV001p, West, Downstream



Photograph 3: SASV001p, East, Upstream

Linear Waterbody Data Sheet

Survey Description				
Project Name: Line 5		Waterbody Name: Unnamed tributary to Silver Creek		Waterbody ID: SASV005i
State: Wisconsin		County: Ashland	Company: VHB	Crew Member Initials: CS, CC
Tract Number(s): WI-AS-190.000		Nearest Milepost: 21. 5	Associated Wetland ID(s): WASV019	
Survey Type: (check one) <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial				
Waterbody Type: (check one) <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: 4 ft.		OHWM Indicator: (check all that apply) <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining		
Height: 0.5 in.		<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
N/A <input type="checkbox"/>				
Width of Waterbody - Top of Bank to Top of Bank: 5 ft.		Width of Waterbody - Toe of Slope to Toe of Slope: 4 ft.		Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> 3 ft.
Depth of Water: (Approx.) N/A <input type="checkbox"/> 2 in.				
Sinuosity: (check one) <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering		Water velocity: (Approx.) N/A <input checked="" type="checkbox"/> fps		Bank height: Right: 1 ft. Left: 1 ft.
Bank slope: Right: 90 degrees Left: 30 degrees				
Qualitative Attributes				
Water Appearance: (check one) <input type="checkbox"/> No water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input checked="" type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:				
% of Substrate: _____% _____% 50 % 40 % _____% _____% 10 % _____%				
Width of Riparian Zone: N/A <input type="checkbox"/> 150 ft.		Vegetative Layers: (check all that apply) <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs		
Avg. DBH of Dominants: (approx.) 6 in.		2 in. _____ in.		
Dominant Bank Vegetation (list): <i>Carex bromoides, Impatiens capensis, Dryopteris intermedia</i>				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Vegetation in stream, pools				
Aquatic Organisms Observed (list): None				
T&E Species Observed (list): None				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Livestock access				
Waterbody is: (check one) <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality ^a : (check one) <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:

SASV005i

^a **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

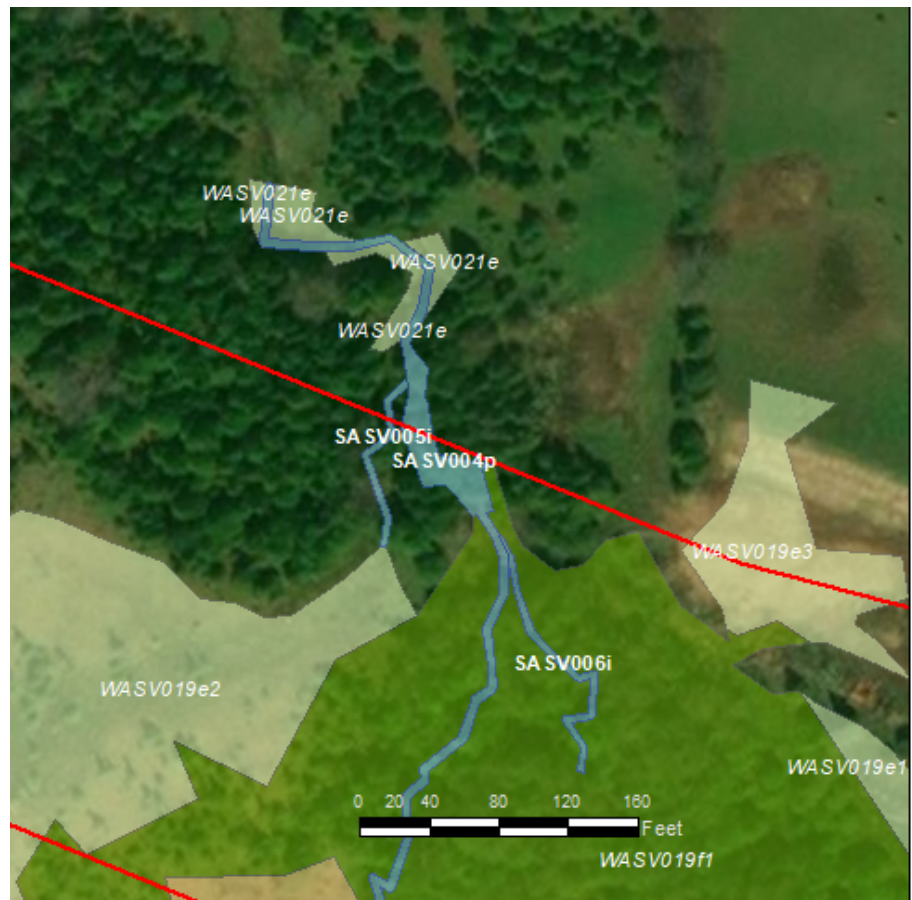
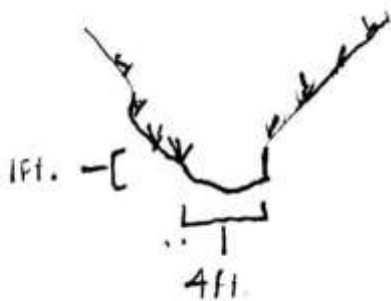
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Water is standing in pools, but not flowing at time of survey. Vegetation rooted in stream bed (*Impatiens capensis*, *Tsuga canadensis*, *Carex bromoides*). Sparse vegetation along banks. Clear disturbance associated with livestock access.

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)





Photograph 1: SASV005i, South, Upstream



Photograph 2: SASV005i, North, Downstream



Photograph 3: SASV005i, West, Across Stream

Linear Waterbody Data Sheet

Survey Description				
Project Name: Line 5		Waterbody Name: Unnamed tributary to Silver Creek		Waterbody ID: SASV004p
Date: 9/21/2019				
State: Wisconsin	County: Ashland	Company: VHB	Crew Member Initials: CS, CC	Photos: 3 (US, DS, CS)
Tract Number(s): WI-AS-190.000, WI-AS-190.002		Nearest Milepost: 21.5		Associated Wetland ID(s): WASV019, WASV021
Survey Type: (check one) <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial				
Waterbody Type: (check one) <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: 5 ft.		OHWM Indicator: (check all that apply) <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining		
Height: 3 in.		<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
N/A <input type="checkbox"/>				
Width of Waterbody - Top of Bank to Top of Bank: 5.5 ft.		Width of Waterbody - Toe of Slope to Toe of Slope: 3 ft.		Width of Waterbody - Water Edge to Water Edge: 2 ft.
Depth of Water: (Approx.) 3-4 in.		N/A <input type="checkbox"/>		
Sinuosity: (check one) <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		Water velocity: (Approx.) 1 fps		Bank height Right: 3 ft. Left: 3 ft.
N/A <input type="checkbox"/>				Bank slope Right: 90 degrees Left: 70 degrees
Qualitative Attributes				
Water Appearance: (check one) <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input checked="" type="checkbox"/> Organic <input type="checkbox"/> Other:				
% of Substrate: _____% _____% 60 % 30 % _____% _____% 10 % _____%				
Width of Riparian Zone: N/A <input type="checkbox"/> >500 ft.		Vegetative Layers: (check all that apply) <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs		
		Avg. DBH of Dominants: (approx.) 10 in. 2 in. _____ in.		
Dominant Bank Vegetation (list): <i>Thuja occidentalis, Carex bromoides</i>				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Riffles, pools, overhanging vegetation, large submerged wood				
Aquatic Organisms Observed (list): None				
T&E Species Observed (list): None				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Livestock access				
Waterbody is: (check one) <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality ^a : (check one) <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:

SASV004p

^a **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

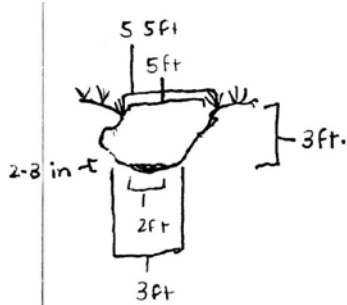
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

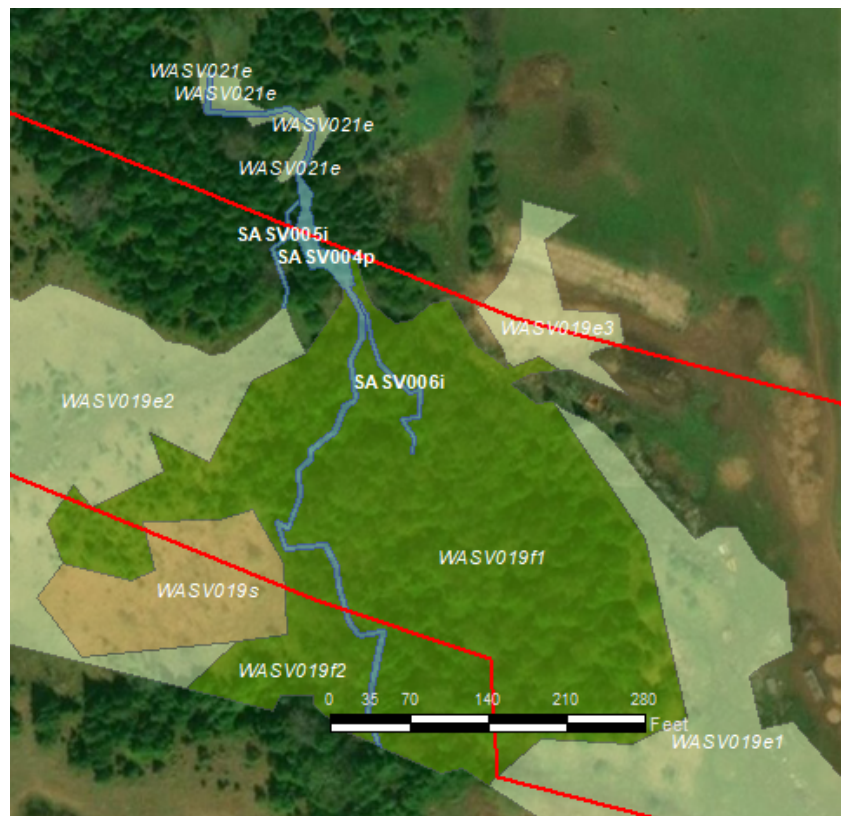
Notes:

SAV004p originates off-site. In the upstream (southern) portion, the stream is flowing but goes subterranean for brief sections throughout. The ground water-driven, seepy wetland (WASV019) creates several braided channels within the wetland itself that do not have consistent enough bed or bank to map. The stream crosses into PEM cowpasture to the north and transitions into a wider, more cobble-boulder feature. SASV005i and SASV006i both connect to this stream on the north end of the study area. WASV021 is a floodplain to the stream.

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)



Northern portion:
OHWM: 15 ft
TOB to TOB: 15 ft
TOS to TOS: 15 ft
Left Bank Slope: 60°
RB Slope: 20°
LB Height: 1.5 ft
RB Height: 1.5 ft





Photograph 1: SASV004p, South, Upstream



Photograph 2: SASV004p, North, Downstream



Photograph 3: SASV004p, East, Across Stream

Linear Waterbody Data Sheet

Survey Description				
Project Name: Line 5		Waterbody Name: Unnamed tributary to Silver Creek		Waterbody ID: SASV006i
State: Wisconsin		County: Ashland	Company: VHB	Crew Member Initials: CS, CC
Tract Number(s): WI-AS-190.000, WI-AS-190.002		Nearest Milepost: 21.5		Associated Wetland ID(s): WASV019
Survey Type: (check one) <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial				
Waterbody Type: (check one) <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: 8 ft.		OHWM Indicator: (check all that apply) <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining		
Height: 1 in.		<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
N/A <input type="checkbox"/>				
Width of Waterbody - Top of Bank to Top of Bank: 8.5 ft.		Width of Waterbody - Toe of Slope to Toe of Slope: 4 ft.		Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> 3.5 ft.
Depth of Water: (Approx.) N/A <input type="checkbox"/> 4 in.				
Sinuosity: (check one) <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		Water velocity: (Approx.) 0.25 fps N/A <input type="checkbox"/>		Bank height Right: 1 ft. Left: 1 ft.
				Bank slope Right: 90 degrees Left: 30 degrees
Qualitative Attributes				
Water Appearance: (check one) <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input checked="" type="checkbox"/> Organic <input type="checkbox"/> Other:				
% of Substrate: _____% _____% _____% _____% _____% 20% 80% _____%				
Width of Riparian Zone: N/A <input type="checkbox"/> <500 ft.		Vegetative Layers: (check all that apply) <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs		
		Avg. DBH of Dominants: (approx.) 12 in. 2 in. _____ in.		
Dominant Bank Vegetation (list): <i>Impatiens capensis, Thuja occidentalis, Onoclea sensibilis</i>				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Overhanging banks, large submerged wood, pools				
Aquatic Organisms Observed (list): None				
T&E Species Observed (list): None				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Livestock access				
Waterbody is: (check one) <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality ^a : (check one) <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:

SASV006i

^a **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

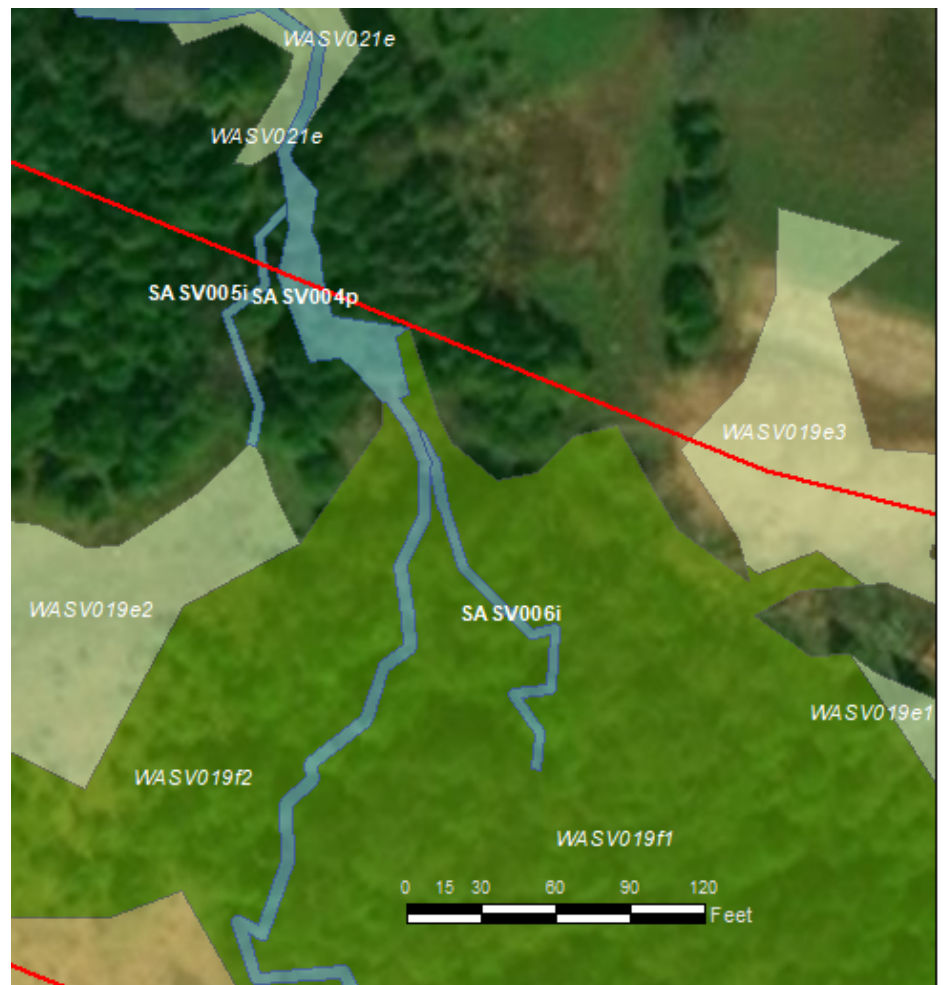
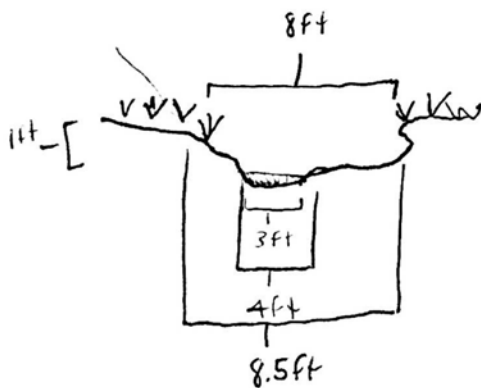
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Part of a large system of braided channels within PFO seep wetland WASV019. Many ephemeral-like channels present throughout and mapped as part of wetland. Low-flow channel connects to SASV004p at PFO/PEM break.

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)



Linear Waterbody Point Photographs
Line 5 Wetland Delineation
September 23, 2019, Page 1 of 2



Photograph 1: SASV006i, South, Upstream



Photograph 2: SASV006i, North, Downstream



Photograph 3: SASV006i, West, Across Stream

APPENDIX F

Waterbody Data Sheets

Part 13 of 24

Linear Waterbody Data Sheet

Survey Description				
Project Name: Line 5		Waterbody Name: Unnamed tributary to Krause Creek		Waterbody ID: SASV007i
State: Wisconsin		County: Ashland	Company: VHB	Crew Member Initials: CS, CC
Tract Number(s): WI-AS-194.000		Nearest Milepost: 21. 9	Associated Wetland ID(s): WASV023	
Survey Type: (check one) <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial				
Waterbody Type: (check one) <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: 4 ft.		OHWM Indicator: (check all that apply) <input type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining		
Height: 1 in.		<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
N/A <input type="checkbox"/>				
Width of Waterbody - Top of Bank to Top of Bank: 8 ft.		Width of Waterbody - Toe of Slope to Toe of Slope: 4 ft.		Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> 4 ft.
Depth of Water: (Approx.) N/A <input type="checkbox"/> 4 in.				
Sinuosity: (check one) <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		Water velocity: (Approx.) N/A <input checked="" type="checkbox"/> fps		Bank height Right: 4 ft. Left: 4 ft.
Bank slope Right: 80 degrees Left: 70 degrees				
Qualitative Attributes				
Water Appearance: (check one) <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:				
% of Substrate: _____% _____% 40% 50% 10% _____% _____% _____%				
Width of Riparian Zone: 200 ft.		Vegetative Layers: (check all that apply) <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs		
N/A <input type="checkbox"/>		Avg. DBH of Dominants: (approx.) 5 in. 2 in. _____ in.		
Dominant Bank Vegetation (list): <i>Impatiens capensis, Tilia americana, Phalaris arundinacea</i>				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Vegetation rooted in stream bed, overhanging banks, pools				
Aquatic Organisms Observed (list): Green frog				
T&E Species Observed (list): None				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Signs of past sedimentation from adjacent agricultural field.				
Waterbody is: (check one) <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality ^a : (check one) <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:

SASV007i

^a **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

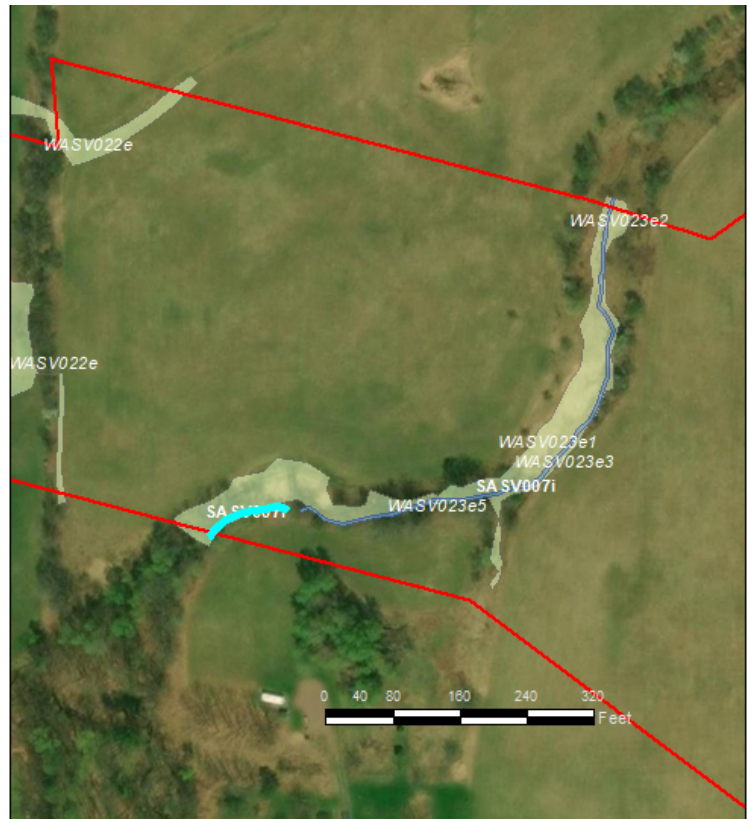
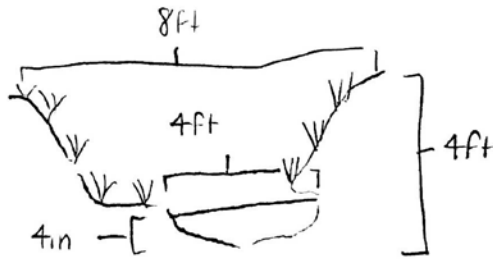
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Intermittent stream with pockets of standing water in larger pools. Stream crosses underneath access road. There are signs of significant sedimentation in some parts of the stream as a result of past agricultural land use.

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)





Photograph 1: SASV007i, West, Upstream



Photograph 2: SASV007i, East, Downstream



Photograph 3: SASV007i, South, Across Stream

Linear Waterbody Data Sheet

Survey Description				
Project Name: Line 5		Waterbody Name: Unnamed tributary to Krause Creek		Waterbody ID: SASV020p
State: Wisconsin		County: Ashland	Company: VHB	Crew Member Initials: DCR, CDC
Tract Number(s): WI-AS-197.000		Nearest Milepost: 22.9	Associated Wetland ID(s): WASV062	
Survey Type: (check one) <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial				
Waterbody Type: (check one) <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: 6 ft.		OHWM Indicator: (check all that apply) <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining		
Height: 1 ft.		<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
N/A <input type="checkbox"/>				
Width of Waterbody - Top of Bank to Top of Bank: 8 ft.		Width of Waterbody - Toe of Slope to Toe of Slope: 6 ft.		Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> 6 ft.
Depth of Water: (Approx.) N/A <input type="checkbox"/> 4-6 in.				
Sinuosity: (check one) <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		Water velocity: (Approx.) 2 fps		Bank height Right: 3 ft. Left: 4 ft.
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>		Bank slope Right: 90 degrees Left: 70 degrees
Qualitative Attributes				
Water Appearance: (check one) <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:				
% of Substrate: _____% _____% 30% 50% 10% 10% _____% _____%				
Width of Riparian Zone: N/A <input type="checkbox"/> >500ft.		Vegetative Layers: (check all that apply) <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs		
N/A <input type="checkbox"/>		Avg. DBH of Dominants: (approx.) 4 in. 1 in. N/A in.		
Dominant Bank Vegetation (list): <i>Fraxinus nigra, Betula alleghaniensis, Athyrium filix-femina</i>				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): undercut banks, riffles, pools				
Aquatic Organisms Observed (list): None				
T&E Species Observed (list): None				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Horses have access to small portion of stream in pasture.				
Waterbody is: (check one) <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality ^a : (check one) <input checked="" type="checkbox"/> High <input type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:

SASV020p

^a **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Stream originates off-site and dissipates into PEM portion of WASV062, which is located within a horse pasture.

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)

